Amendments to the Claims:

Please amend claims 26, 31, and 33 and cancel claims 27, 28, 32, 35, 36 and 38 as shown in the following listing of claims. This listing of claims will replace all prior versions and listings of claims in the application:

1-25. (cancelled)

26. (currently amended) A method of transmitting a first parallel data stream over a fiber optic channel, comprising:

converting the first parallel data stream into a plurality of second parallel data streams;

~~encoding the plurality of second parallel data streams into symbols using a plurality of symbol encoders;~~

~~performing an inverse Fourier transform on the symbols, thereby producing a plurality of transformed values;~~

modulating in parallel the second parallel data streams in a plurality of modulators, thereby producing a plurality of modulated signals;

~~parallel process~~ converting in parallel the plurality of ~~second transformed values~~ modulated signals into a plurality of analog signals;

mixing in parallel the analog modulated signals in a plurality of mixers;

filtering in parallel the mixed analog signals in a plurality of band-pass filters;

combining the plurality of filtered analog signals into a single analog signal;

converting the single analog signal into an optical signal; and

coupling the optical signal to the fiber optic channel.

27-28. (cancelled)

29. (previously presented) A method as in claim 26 wherein the converting the first parallel data stream into a plurality of second parallel data streams comprises accepting the first parallel data stream from an interface selected from the interfaces consisting of a ten gigabit

media independent interface (XGMII) and a ten gigabit extended Attachment Unit Interface (XAUI).

30. (cancelled)

31. (currently amended) A method of converting an optical signal received from a fiber optic channel into a parallel data stream, comprising:

converting the optical signal received from the fiber optic channel into an analog electrical signal;

~~sampling and holding successive values of the analog electrical signal with a plurality of sample and hold elements to produce a plurality of analog values;~~

~~converting~~ mixing the ~~plurality of~~ analog electrical signal ~~values~~ with a plurality of mixing frequencies ~~into~~ to produce a plurality of ~~digital~~ baseband signals;

~~performing a Fourier transform on the plurality of digital baseband signals, thereby producing a plurality of symbols;~~ and

converting ~~decoding~~ the plurality of baseband signals into ~~symbols using a plurality of decoders to produce~~ a parallel data stream.

32. (cancelled)

33. (currently amended) A method as in claim ~~32~~ 31 wherein the ~~parallel process~~ converting the analog electrical signal into a plurality of baseband signals ~~comprises mixing the analog electrical signal with a plurality of mixing frequencies to produce a plurality of baseband signals~~ further comprises filtering the plurality of signals mixed with the plurality of mixing frequencies to produce a plurality of baseband signals.

34-39. (cancelled)